SPECIFICATION

TO WHOM IT MAY CONCERN

BE IT KNOWN, That I Scott D. Landes, a citizen of the United States, residing in Bloomington, ~~Scott~~ Hennepin County, State of Minnesota, have invented new and useful improvements in ANCHORING MARKER POST of which the following is a specification.

FIELD OF INVENTION

This invention relates generally to markers and more specifically to an anchoring marker post which when embedded in the ground provides for a resistance against the marker post being up-lifted.

BACKGROUND OF THE INVENTION

Traditionally marker posts are used to place as an above the ground warning that an underground pipe or electric line is buried in the soil. The marker post must be somewhat visually and physically unobtrusive yet be able to warn a person that an underground utility exists at the particularly marked location. In addition, the marker post must be able to withstand the environment for an extended period of time. The marker post should also be able to remain embedded at the location of the underground utility in order to continue to convey a warning message of the existence of an underground hazard to those who may be in the proximity of the underground hazard.

One problem with traditional marker posts is that once embedded, those marker posts stand a good chance of being up-lifted due to a variety of reasons such as by individuals who are in the proximity of the marker post or by nature such as due to severely windy storms.

The present invention is a resilient and weather resistant anchoring marker post which when embedded in the ground provides for resistance against the marker post being up-lifted. The anchoring marker post has at least one anchoring flap which, when embedded in the open position, uses the weight of the top soil to create resistance against the up-lifting of the post.

SUMMARY OF THE INVENTION

Briefly, the present invention comprises a hollow one piece anchoring marker post. The marker post is composed of a polymer plastic that is flexibly resilient and weather resistant. Integrally attached to the marker post is a set of anchoring flaps. The anchoring flaps are moveable from a first closed position to facilitate the handling and transportation of the marker post to a second open position to prevent the withdrawal of the marker post from an embedded position. The flap, when embedded in the open position, uses the weight of the top soil to create a resistance against the up-lifting of the post. With the flaps integrally connected to the marker post there are no additional parts to attached to the marker post thus there are fewer parts to lose.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing the preferred embodiment of the anchoring marker post having anchoring flaps in a closed position;

FIG. 2 is a perspective view showing the embodiment the anchoring marker post of FIG. 1 but with the anchoring flaps in an open position;

FIG. 3 is a top view showing the anchoring marker post of FIG. 2;

FIG. 4 is a perspective view showing the anchoring marker post of FIG. 2 with a cap thereon;

FIG. 5 is a perspective view showing a triangle shaped anchoring marker post having one anchoring flap;

FIG. 6 is a perspective view showing an anchoring marker post having a square shaped body; and

FIG. 7 is a perspective view showing an anchoring marker post having a circular shaped body.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, reference numeral 10 generally identifies an anchoring marker post of the present invention composed of a flexibly resilient plastic polymer such as polycarbonate or polyethylene. Reference numeral 11 identifies a one piece hollow triangular shaped elongated member 11 having a first end 11a and a second end 11b.

Located within elongated member 11 is a hollow interior 13. Elongated member 11 comprises a first panel 12a, a second panel 12b, and a third panel 12c. Located on the first panel 12a proximate the second end 11b of elongated member 11 is a first anchoring flap 14 having a first end 14a and a second end 14b. Located on the second panel 12b proximate the second end 11b of elongated member 11 is a second anchoring flap 15 having a first end 15a and a second end 15b. Located on the third panel 12c proximate the second end 11b of elongated member 11 is a third anchoring flap 16 having a first end 16a and a second end 16b.

First anchoring flap 14 is integrally connected to elongated member 11 at the second end 14b of anchoring flap 14 by a first living hinge 17a. Second anchoring flap 15 is integrally connected to elongated member 11 at the second end 15b of anchoring flap 15 by a second living hinge 17b. Third anchoring flap 16 is integrally connected to elongated member 11 at the second end 16b of anchoring flap 16 by a third living hinge 17c. The

hinges are sufficiently flexible so that a user can bend the flaps out yet rigid enough to permanently anchor the post and prevent the post from being up-lifted from a top soil surface.

The advantage to the hinges being integrally connected to elongated member 11 is that there are no additional parts to fasten onto elongated member 11 which means that there are no additional parts to lose. In addition, since the anchoring flaps are integrally connected it is very unlikely that the anchoring flaps will fall off elongated member 11. As shown, the anchoring flaps of FIG. 1 are in a closed position which is defined by the anchoring flaps laying in the plane of the panel. The anchoring flaps in the close position allow for anchoring marker post 10 to be easily transferable without the flaps snagging on loose articles.

FIG. 2 shows a perspective view of the anchoring marker post of FIG. 1 but with the anchoring flaps extending to an open position. The open position is defined by the first ends 14a, 15a, 16a of the flaps 14, 15, 16 extending outwardly while the second ends 14b, 15b, 16b remain connected to the hinges 17a, 17b, 17c. The outward extension of the first ends of the flaps results in the bending of the flaps and hinges. The flaps of the anchoring marker post have a sufficient memory so as to not return to the closed position when bent outwardly to the open position, but instead stay in the open position until the post can be embedded. When embedded in a top soil surface, the outward extension of the first end of the flaps uses the weight of the top soil to create a resistance against the post becoming up-lifted.

FIG. 3 shows a top view of the anchoring marker post 10 of FIG. 2. As is illustrated, elongated member 11 comprises first panel 12a, second panel 12b, and third panel 12c. The attachments of these panels form hollow interior 13. Also shown in FIG. 3 are the

flaps in the open position. These flaps can vary in size and shape depending upon the type of material that will embed the marker post but for most soil anchoring flaps with a size of approximately 3 inches by 1.5 inches and with a radius of approximately 0.75 inches are sufficiently large to inhibit the withdrawal of the post.

FIG. 4 shows a perspective view of the anchoring marker post 10 of FIG. 2. Attached to the first end 11a of elongated member 11 is a water resistant post cap 18. Post cap 18 prevents rain water, snow or debris from entering the hollow interior 13, shown in FIG. 2 and 3, of elongated member 11.

FIG. 5 is a perspective view showing an anchoring marker post 19 of an alternative embodiment. Marker post 19 is similar to marker post 10 of FIG. 2 except that marker post 19 has only one anchoring flap 20 compared to marker post 10 of FIG. 2 having three anchoring flaps.

FIG. 6 is a perspective view showing an anchoring marker post 21 of an alternative embodiment having a square shape elongated member 22. Elongated member 22 is made up of a first panel 23, a second panel 24, a third panel 25, and a fourth panel 26. Attached to first panel 23 is a first integral flap 27, attached to second panel 24 is a second integral flap 28, attached to third panel 25 is a third integral flap 29 (not shown) and attached to fourth panel 26 is a fourth integral flap 30.

FIG. 7 shows a perspective view of an anchoring marker post 31 having a circular shaped elongated member 32. Integrally attached to elongated member 32 are integral anchoring flaps 35 and 36 which are circumferentially positioned around elongated member 32.

In the method of making an integral anchoring marker post composed of a resilient and weather resistant polymer plastic such as polycarbonate or polyethylene one first starts off by forming a hollow post. Typically one extrudes a hollow post having a first end and a second end. The step of extruding of the hollow post is then followed by the step of forming an integral anchoring flap located proximate to the second end of the hollow post. The step of forming the integral flap can be by either the use of a stamping or a cutting device such as a punch.

In the method for transporting and embedding an anchoring marker post the steps include: (1) packaging an anchoring post having a first end and a second end and an integral anchoring flap in a closed position in a transporting container; (2) transferring the anchoring post to a desired location; (3) removing the anchoring post from the transporting container; (4) bringing the integral anchoring flap of the anchoring post to an open position from the closed position; and (5) burying the second end of the anchoring post along with the anchoring flap in the open position within a top soil surface.